

Inclusion, recognition, and inter-group comparisons: The effects of power-sharing institutions on grievances - Online Supplementary Material

Appendix 1: Data

Appendix 1.1: Ethnic attribution of surveys

To analyze the relationship between power-sharing institutions and citizens' attitudes based on survey data, survey respondents had to be attributed to the specific ethnic groups used in the CPSD (Juon 2020) and EPR datasets (Vogt et al. 2015). This was done by using a combination of explicit self-identification question items asked in some of the surveys (most consistently in the Afrobarometer) and information on their settlement area, religion, language, and phenotype provided by others. These, I compared to the corresponding data from the EPR-Ethnic Dimensions dataset (Vogt et al. 2015) and local settlement patterns derived from the Geo-EPR dataset (Vogt et al. 2015) to match respondents and ethnic groups (both datasets were augmented to encompass the additional ethnic groups from the CPSD as well).

Most existing studies facing a similar challenge (e.g., Bühlmann & Hänni 2012; Elkins & Sides 2007; Hänni 2017; Robinson 2014) relied on the same type of survey variables which they use to manually attribute respondents to their ethnic categories. For the present purpose, the combination of a large number of discrete mass survey sources means that such a manual attribution procedure might not only be unfeasible, but, due to different information provided across survey types, also result in inconsistent classifications based on possibly nontransparent decisions.

I hence opted for a systematic attribution procedure based on the demographic information shared by the respective survey sources and the group-wise information available by the augmented group-list of the EPR dataset I relied on (Juon 2020; Vogt et al. 2015). In a first step, I used the information provided by the augmented EPR-ED dataset to calculate the population shares of each group's sub-segments as given by their within-group cleavages. EPR-ED provides information on three such cleavages: the

religious creeds practiced by group members, the languages spoken by them, and their phenotype. It codes both type (e.g., which languages do group members speak?) and relative population shares of up to the three largest sub-segments arising from each cleavage. This enabled me to calculate the population shares of each sub-group, given by their religion, language, and phenotype.

In a second step, I calculated the demographic proportion of each group settling in each territorial unit used in the different mass surveys. I did this, by spatially intersecting the ethnic settlement patterns provided by the EPR dataset (Vogt et al. 2015) with the territorial boundaries of the regions used in the various surveys.¹

In a third step, I combined both sources of information to calculate the population shares of each group's segments (given by religion, language, and phenotype) in each territorial unit used in the surveys. This enabled me to calculate the demographic probability that a respondent is part of a given ethnic group, given their available information on the corresponding characteristics. The probability that a respondent r with a vector of characteristics R belongs to a given group x is given by the following formula:

$$P(r \in x) = \frac{\alpha_{x,territory\ r} \times \beta_{x,religion\ r} \times \gamma_{x,language\ r} \times \delta_{x,phenotype\ r} + \varepsilon_x}{\sum_{x=1}^X (\alpha_{x,territory\ r} \times \beta_{x,religion\ r} \times \gamma_{x,language\ r} \times \delta_{x,phenotype\ r} + \varepsilon_x)}$$

¹ For this purpose, I used the polygons for administrative units provided the Database of Global Administrative Areas (GADM), available online under <<http://gadm.org/data.html>>. Where these units changed over time or where the surveys used other territorial units, I handcoded these through a combination of backwards aggregation of administrative boundaries and manually-georeferenced historical or contemporary maps. I weighted the spatial overlaps attained through this procedure with their local population densities, proxied by the 2015 version of the Gridded Population of the World Version 3 database, provided by the Center for International Earth Science Information Network and available at <<http://sedac.ciesin.columbia.edu/gpw>>.

In other words, it is calculated by dividing the population shares of group x with characteristics corresponding to respondent r by the total population shares of all groups with the same characteristics. $\alpha_{x,territory\ r}$, $\beta_{x,religion\ r}$, $\gamma_{x,language\ r}$, and $\delta_{x,phenotype\ r}$ are the respective shares of group x with characteristic r . ε_x is a factor to account for the demographic shares of group x 's unidentified sub-segments (i.e., for who information on a characteristic is missing). This is relevant only in a small number of cases where the individual population shares of the three characteristics provided by the augmented EPR-ED do not add up to 1 and for 'other' groups for which these characteristics are not coded. The addition of this factor to both nominator and denominator serves to account for the fact that these unidentified sub-segments might in theory possess these same characteristics R , yet remain unidentified.

		Bosniaks	Serbs	Croats	Roma	Albanians	Montenegrins	Other
		0.5	0.31	0.15	0.01	0.0008	0.0005	0.03
Territory	Federacija	0.95	0.04	0.99	0.56	0.56	0.56	0.56
	Republika	0.03	0.94	0.01	0.43	0.43	0.43	0.43
Religion	Sunni Islam	1	0	0	0.4	0.6	0	N/A
	Serb Orthodox	0	1	0	0	0	1	N/A
	Catholic	0	0	1	0.3	0.1	0	N/A
	Protestant	0	0	0	0.3	0.2	0	N/A
Language	Bosnian	1	0	0	0	0	0	N/A
	Serbian	0	1	0	0	0	1	N/A
	Croat	0	0	1	0	0	0	N/A
	Romany	0	0	0	1	0	0	N/A
	Tosk Albanian	0	0	0	0	0.62	0	N/A
	Gheg Albanian	0	0	0	0	0.38	0	N/A
Phenotype	European	1	1	1	1	1	1	N/A

Figure A1. Attribution of respondents to ethnic groups, example of Bosnia and Herzegovina (2018).

Note: The top row shows the overall demographic shares of each group. All numbers in the other rows are fractions indicating the relative size of each group's subgroups, given territory, religion, language, and phenotype. For example, Bosniaks have an overall demographic share of 0.5 and 95% of them live in the Federacija.

Figure A1 provides an example for this attribution procedure. It shows the population shares of all Bosnian ethnic groups in my dataset and the proportion within each group that possesses a certain characteristic (territory, religion, language, phenotype) in 2018. It indicates that some groups are easily distinguishable from others, given certain observed characteristics, while this is more difficult for others. For example, a respondent speaking the Bosnian language would almost unequivocally be attributed to the Bosniak group (probability = $[0.5 * 1] / [0.5 * 1 + 0.03]$). Similarly, a respondent speaking Serbian would be attributed to the Serb group with high probability (probability = $[0.31 * 1] / [0.31 * 1 + 0.0005 * 1 + 0.03]$). In other cases, the attribution would be less straightforward: an otherwise unidentified respondent living in the Federacija would only be attributed with a comparably small probability to the Bosniak group (probability = $[0.5 * 0.95] / [0.5 * 0.95 + 0.31 * 0.04 + 0.15 * 0.99 + 0.01 * 0.56 + 0.0008 * 0.56 + 0.0005 * 0.56 + 0.03 * 0.56]$).

To validate the attribution procedure, I compared the relative population shares of the ethnic groups according to the extended EPR-data with those I obtained for each country's unique survey wave. The very high correlation in the sample underlying my main models of $r=0.986$ indicates a high agreement between both and is comparable to manual classifications (cf. Bühlmann & Hänni 2012).²

² Without discarding any group or country survey year entirely (see main article), this correlation is still very high at $r=0.890$.

Appendix 1.2: Dependent variable I survey items: Government dissatisfaction

Table A1. Dependent variable I survey items: Government dissatisfaction.

Survey	Wave	Question	Categories
Afro Barometer	1	Since the last election, how satisfied have you been with the performance of the President [of country] / your member of parliament?	Very unsatisfied / Somewhat unsatisfied / Somewhat satisfied / Very satisfied
Afro Barometer	2-6	How much do you trust each of the following, or haven't you heard enough about them to say: The President / Parliament?	Not at all / A little bit / A lot / A very great deal
Arab Barometer	1-5	Using a 10 point scale, how satisfied are you with the performance of the current government?	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10
Arab Barometer	1-5	How much trust do you have in the PM or President / Parliament?	A great deal / quite a lot / not very much / none at all
Asia Barometer	1-5	Please indicate to what extent you trust the following institutions to operate in the best interests of society. The central government / Parliament	Don't trust at all / Don't really trust / Trust to a degree / Trust a lot
Asian Barometer	1-4	How satisfied or dissatisfied are you with the current government?	Very dissatisfied / Somewhat dissatisfied / Half and Half / Somewhat satisfied / Very satisfied
Asian Barometer	1-4	How much trust do you have in the national government? / in parliament?	None at all / Not very much / Quite a lot / A great deal
Asian Barometer	3-4	How much trust do you have in the PM / President?	None at all / Not very much / Quite a lot / A great deal
China Survey	1	Please tell us how satisfied or unsatisfied you are with each of the following: Central government	0 = not satisfied at all / ... / 10 = satisfied very much
Comparative National Elections Project	IV	Thinking back to the time of the election, to what extent were you satisfied or dissatisfied with the performance of the President/Prime Minister?	Very dissatisfied / dissatisfied / Neither satisfied nor dissatisfied / Very satisfied
European Social Survey	1-8	Now thinking about the [country] government, how satisfied are you with the way it is doing its job?	0 = extremely dissatisfied / ... / 10 = extremely satisfied
European Social Survey	1-8	Please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. Parliament	0 = no trust at all / ... / 10 = complete trust
European Values Survey	1-4/4	Please look at this card and tell me, for each item listed, how much confidence you have in them. The government [in your capital] (1-4) / Parliament (4)	None at all / Not very much / Quite a lot / A great deal
European Values Survey	3	How satisfied are you with people in the national office?	Very dissatisfied / fairly dissatisfied / fairly satisfied / very satisfied
Latino Barometer	1,2,7-21	Tell me how much confidence you have in each of the following groups, institutions or persons mentioned on the list: the Government	No confidence / a little / some / a lot
Latino Barometer	1-21	Tell me how much confidence you have in each of the following groups, institutions or persons mentioned on the list: the National Congress	No confidence / a little / some / a lot
New Europe Barometer	2-7	To what extent do you trust each of these political institutions to look after your interests? Government (2- 5) / President (3-7) / Prime Minister (5-6) / Parliament (2-7)	No trust at all / Great trust
New Baltic Barometer	1, 3	To what extent do you trust each of these political institutions to look after your interests? Cabinet of ministers (3) / President (1, 3) / Parliament (1, 3)	Complete distrust / general distrust / general trust / complete trust
New Baltic Barometer	5, 6	To what extent do you trust each of these political institutions to look after your interests? Prime Minister	No trust at all / Great trust

New Russia Barometer	1, 3, 14	To what extent do you trust each of these political institutions to look after your interests? Government (3) / President (2, 3, 5-12, 14, 15) / Supreme Soviet (2) / Duma (3, 5-18)	Complete distrust / general distrust / general trust / complete trust
South Asia Barometer	1-2	How much trust do you have in the national government? / in parliament?	None at all / Not very much / Quite a lot / A great deal
South Asia Barometer	2	How satisfied or dissatisfied are you with the current government?	Very dissatisfied / Somewhat dissatisfied / Half and Half / Somewhat satisfied / Very satisfied
South Asia Barometer	2	How much trust do you have in the President? / in the PM?	None at all / Not very much / Quite a lot / A great deal
World Values Survey	1/3-6	Please look at this card and tell me, for each item listed, how much confidence you have in them. The government [in your capital] (3-6) / Parliament (1-6)	None at all / Not very much / Quite a lot / A great deal
World Values Survey	3, 4	How satisfied are you with people in the national office?	Very dissatisfied / fairly dissatisfied / fairly satisfied / very satisfied

Appendix 1.3: Dependent variable II survey items: Feeling discriminated

Table A2. Dependent variable II survey items: Feeling discriminated.

Survey	Wave	Question	Categories
Afrobarometer	1-6	How often, if ever, are [respondent's ethnic group] treated unfairly by the government?	Never / Sometimes / Often / Always
Asian Barometer	3-4	All citizens from different ethnic communities in [country] are treated equally by the government.*	Strongly agree / Somewhat agree / Somewhat disagree / Strongly disagree
European Social Survey	1-8	Would you describe yourself as being a member of a group that is discriminated against in this country?	Yes / No
ISSP-N	1-3	How proud are you of [country's] fair and equal treatment of all groups in society?*	Not proud at all / Not very proud / Somewhat proud / Very proud
Latinobarometro	14, 15, 16, 18	Would you describe yourself as being a member of a group that is discriminated against in this country?	Yes / No
New Baltics Barometer	1,5	Non-citizens and minority nationalities are being badly treated here.*	Strongly agree / Agree / Disagree / Strongly disagree

Note: * Only used for non core groups; ISSP-N = International Social Survey Programme National Identities module.

Appendix 2: Full model results

Table A3. Effect of power-sharing practices and institutions on government dissatisfaction and feeling discriminated (full results).

	Hypothesis	Government dissatisfaction				Feeling discriminated			
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Included non-core	1	0.044 (0.065)				-0.443*** (0.094)			
Corporate PSI (group)	1		-0.405** (0.182)	-0.571** (0.227)	-0.344* (0.184)		-0.894*** (0.258)	-0.333 (0.330)	-0.853*** (0.258)
Liberal PSI (group)	1		0.019 (0.254)	0.045 (0.255)	0.006 (0.254)		0.487 (0.370)	0.517 (0.367)	0.505 (0.369)
Corporate PSI (difference, domestic)	2			-0.205 (0.356)				1.400*** (0.466)	
Corporate PSI (difference, TEK)	3				0.529** (0.266)				1.247*** (0.404)
Core		-0.629*** (0.090)	-0.577*** (0.107)	-0.553*** (0.108)	-0.602*** (0.111)	-0.768*** (0.127)	-0.457*** (0.151)	-0.440*** (0.151)	-0.423*** (0.155)
Core x corporate PSI (group)			0.280* (0.164)	0.327** (0.166)	0.281* (0.163)		0.559** (0.251)	0.652** (0.255)	0.513** (0.251)
Core x liberal PSI (group)			-0.420* (0.233)	-0.479** (0.235)	-0.364 (0.233)		-0.305 (0.349)	-0.372 (0.351)	-0.248 (0.346)
Core x corporate PSI (difference, domestic)				-1.153* (0.683)				-1.779* (0.911)	
Core x corporate PSI (difference, TEK)					0.178 (0.413)				-0.711 (0.554)
Relative size		0.985*** (0.129)	1.026*** (0.128)	1.043*** (0.128)	1.021*** (0.128)	-0.435** (0.183)	-0.564*** (0.186)	-0.515*** (0.186)	-0.639*** (0.186)
non-EPR group		-0.151* (0.091)	-0.218** (0.087)	-0.208** (0.088)	-0.207** (0.086)	-0.268** (0.127)	-0.110 (0.121)	-0.200 (0.124)	-0.100 (0.120)
Recent contestation		0.194*** (0.051)	0.199*** (0.051)	0.202*** (0.051)	0.191*** (0.051)	0.201*** (0.078)	0.231*** (0.080)	0.257*** (0.080)	0.237*** (0.079)
CPI		-0.188*** (0.043)	-0.196*** (0.042)	-0.204*** (0.042)	-0.179*** (0.043)	-0.095 (0.061)	-0.107* (0.062)	-0.105* (0.061)	-0.092 (0.063)
Polity (normalized)		0.873*** (0.277)	0.893*** (0.272)	0.859*** (0.273)	0.869*** (0.274)	-0.500 (0.538)	-0.508 (0.544)	-0.554 (0.535)	-0.600 (0.549)
GDP p.c. (logged)		0.146 (0.089)	0.155* (0.086)	0.168* (0.087)	0.146* (0.087)	0.240* (0.134)	0.220 (0.135)	0.219* (0.132)	0.213 (0.137)
Ethnic fractionalization		0.744** (0.329)	0.829*** (0.318)	0.839*** (0.321)	0.928*** (0.325)	0.074 (0.550)	0.052 (0.557)	-0.088 (0.545)	0.131 (0.573)
Age		-0.005*** (0.0002)	-0.005*** (0.0002)	-0.005*** (0.0002)	-0.005*** (0.0002)	-0.004*** (0.0004)	-0.004*** (0.0004)	-0.004*** (0.0004)	-0.004*** (0.0004)
Female		-0.023*** (0.005)	-0.023*** (0.005)	-0.023*** (0.005)	-0.023*** (0.005)	-0.037*** (0.012)	-0.037*** (0.012)	-0.037*** (0.012)	-0.037*** (0.012)
High education		-0.012 (0.008)	-0.012 (0.008)	-0.012 (0.008)	-0.012 (0.008)	0.106*** (0.018)	0.106*** (0.018)	0.106*** (0.018)	0.106*** (0.018)
Political interest		-0.360*** (0.006)	-0.360*** (0.006)	-0.360*** (0.006)	-0.360*** (0.006)	0.104*** (0.012)	0.104*** (0.012)	0.104*** (0.012)	0.104*** (0.012)
Constant		-2.662*** (0.770)	-2.711*** (0.748)	-2.765*** (0.749)	-2.738*** (0.756)	-3.046** (1.426)	-2.882** (1.452)	-3.073** (1.419)	-2.930** (1.474)
N		672780	672780	672780	672780	300890	300890	300890	300890
Log Likelihood		-398272.700	-398268.700	-398266.400	-398264.600	-102364.900	-102368.600	-102363.500	-102363.200
AIC		796611.500	796609.500	796608.800	796605.100	204777.800	204791.300	204785.100	204784.500
BIC		796988.300	797020.600	797042.700	797039.100	205032.500	205077.900	205092.900	205092.300

* p<0.1; ** p<0.05; *** p<0.01. Survey- and region-fixed effects included but not reported.

Appendix 3: Mechanisms

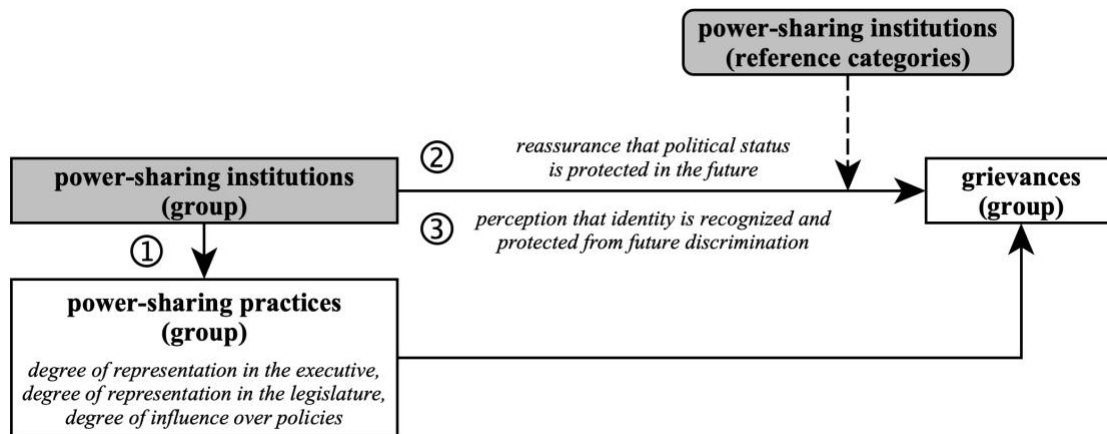


Figure A2. Power-sharing institutions, power-sharing practices, and grievances: theoretical framework and mechanisms (expanded from figure 1 in main article).

I have argued that corporate power-sharing institutions should most substantially reduce the grievances of non-core group members, owing to three complementary mechanisms (see figure A2). First, they **encourage simultaneous power-sharing practices** in a comparably enforceable manner, thereby ensuring that non-core groups are descriptively and substantively represented in government (mechanism 1, cf. Bormann et al. 2019). Second, they constitute a particularly credible reassurance for non-core groups that these inclusive practices will **persist in the future** (mechanism 2). Most importantly, corporate power-sharing strictly circumscribes avenues for institutional reform (cf. Bogaards 2019; Juon & Bochsler 2021). Thereby, they make it more difficult to abolish power-sharing practices in the future, as compared to its informal and liberal alternatives. Finally, corporate power-sharing institutions explicitly recognize non-core groups' diverse identities and thereby **reduce perceptions of unfair and discriminatory treatment directly** (mechanism 3). This is an important symbolic element lacking in their informal and liberal alternatives.

In this appendix, I probe the relative importance of these three mechanisms. I focus on their intermediate, measurable implications, operationalized with three behavioral proxy variables: non-core groups' de-facto government inclusion, the time persistence of their political status, and the absence of

political discrimination against them. I do so in two steps. First, for all group years included in my survey sample, I conduct a causal mediation analysis and assess the relative importance of these three mechanisms in driving the findings I attained in my main models. Second, for a more comprehensive sample of all non-core groups in the time period studied—1992-2018—, I investigate the effect of power-sharing institutions on intermediate, group-level outcomes pertaining to my three mechanisms. Thereby, I provide additional, more systematic, evidence on my hypothesized mechanisms' step-wise implications.

Appendix 3.1: Group-level mediation analysis

In a first step, I conduct a group-level mediation analysis for all group years included in my survey sample. To do so, I rely on the causal mediation framework developed by Imai and colleagues (2011). This approach allows me to separate the estimated effect of corporate power-sharing institutions, attained in my models (2 and 6), into two sets of components. First, components mediated by variables that proxy for the observable implications of my framework's three mechanisms. And second, a component relating to other mechanisms, including direct institutional effects of corporate power-sharing that are not mediated by these variables.

Appendix 3.1.1: Mediation analysis set-up

My mediation analysis proceeds on the ethnic group-level, similar to the country-level approach by Bormann and colleagues (2019).³ My independent variables at the country- and group-levels are analogous to my main institutional models (model 2 for *government dissatisfaction*, model 6 for *feeling discriminated*). However, my group-level mediation framework requires that I transform my individual-level independent and dependent variables to their group-level equivalents. I do so by calculating their group-level means. For my dependent variables (*government dissatisfaction* / *feeling discriminated*), this yields the share of group members that are dissatisfied with government and that feel they belong to a

³ While the approach by Imai and colleagues allows for mediation in mixed multi-level models, its technical implementation is limited to two levels of analysis, whereas my analysis features three (country, country-year, and group-year).

discriminated group, ranging from 0 to 1. For my controls, this yields the mean age of all group members and the proportion of group members that are female, highly educated, and politically interested (all three ranging from 0 to 1).

In addition to these main variables, I incorporate three additional *mediating* variables that conceivably transmit the effects of power-sharing institutions on grievances, as posited by my mechanisms. Together, these capture select, measurable aspects pertaining to my three mechanisms:

- 1) First, I incorporate a dichotomous variable for *included non-core groups*, constructed analogously to the independent variable I used to operationalize power-sharing practices of any type in models 1 and 5. This captures the main implication of mechanism 1 in my framework: Corporate power-sharing institutions reduce grievances most strongly by providing comparably enforceable guarantees for a non-core group's simultaneous, de-facto power-sharing practices. An important limitation of this variable is that it only crudely measures a non-core group's attained *degree* of power-sharing practices. Specifically, it distinguishes situations in which non-core group representatives are descriptively represented in the state executive and wield actual influence from situations where they are excluded from the executive or only enjoy token representation. Conversely, it does not capture important nuances within these broad categories, such as the percentage of government posts occupied by non-core group representatives, their representation in the legislature, or their degree of influence over adopted policies, all of which are important power-sharing practices in their own right (Lijphart 1977).
- 2) Second, I construct a variable that counts the cumulative number of years that a non-core group's de-facto political power status, as coded by EPR (Vogt et al. 2015), has been unchanged (*status persistence*). This captures the main implication of mechanism 2 in my framework: Corporate power-sharing institutions not only enable non-core groups to attain

government inclusion in any given year, but also credibly guarantee that these gains will persist over time. An important limitation of this variable is that it captures the *past* persistence of a non-core group's status, as opposed to expectations over its *future* protection. Hence, it can only serve as a highly imperfect proxy for non-core groups' expectations that their status will be protected in the future. To somewhat mitigate this short-coming, I explicitly investigate the impact of power-sharing institutions on the probability that a non-core group's status will be downgraded in the following year in my additional group-level models (appendix 3.2).

- 3) Third, and finally, I incorporate a dichotomous variable that captures whether a non-core group is subject to targeted *discrimination* with the intent of excluding it from political power (Vogt et al. 2015). Thereby, I account for aspects pertaining to my third mechanism: As I have argued, corporate power-sharing explicitly recognizes non-core groups' identities, reassures them that these will not be subject to discrimination, and thereby reduces perceptions of unfair treatment. Again, this serves as a highly imperfect proxy for the implications of this mechanism. Most importantly, it only captures instances of *current, de-facto* discrimination, rather than group-wise perceptions that group identities are appropriately recognized and protected from *future* discrimination.

Using this set-up, I estimate two sets of regressions. First, I estimate three linear probability models that estimate the effect of corporate power-sharing institutions on my three mediating variables: government inclusion, status persistence, and discrimination. And, second, I run a linear regression that estimates the combined effect of these factors—corporate power-sharing institutions and the three mediating variables—on group-wise grievances. To account for the highly diverging number of respondents in each group, and the associated diverging levels of uncertainty in calculating mean group grievances, I weigh all specifications by the number of respondents in each group-survey wave. I repeat this procedure for

both of my ultimate dependent variables, using the sample of group-survey waves available for them: *% government dissatisfaction* and *% feeling discriminated*.

Appendix 3.1.2: Description of model results

Tables A4 and A5 shows the results from these models. These provide five main findings. First, for both samples I find a positive, and highly significant, effect of corporate power-sharing institutions on the probability that a non-core group's representatives are included in government (models A1 and A5). Conversely, I do not find a similar relationship for liberal power-sharing institutions. This is in line with my first mechanism, whereby corporate power-sharing institutions constitute the strongest guarantee that power-sharing practices will actually be implemented.

Second, I find that corporate power-sharing institutions are associated with more durable political status attainments, as given by my *status persistence* variable which measures the cumulative number of years that a non-core group's status coded by EPR has been stable (models A2 and A6). Conversely, I find the opposite association of liberal power-sharing institutions with this variable. This is in line with my argument that corporate power-sharing most strongly guarantees that a group's improved status will be protected in the future (mechanism 2). Moreover, it is in line with warnings that non-core groups' gains under liberal power-sharing may be subject to a gradual erosion over time (Bogaards 2019b).

Third, in both samples, I find no statistically significant association of either corporate or liberal power-sharing with de-facto discrimination against a non-core group (models A3 and A7). This does not bolster my third mechanism whereby corporate power-sharing reduces grievances by recognizing and protecting group identities. However, as I have argued above, this variable is a highly imperfect proxy for this mechanism and does not capture non-core groups' *subjective* assessment that their identities are appropriately recognized and protected in the *future*. Moreover, in my survey samples, discriminated groups are exceedingly rare, with respondents belonging to such groups only making up 0.6 and 0.5% of the total sample, respectively. Hence, while not substantiating my third mechanism, this finding does not allow me to rule it out either.

Fourth, similar to my main models, I attain a negative, and statistically significant, effect of corporate power-sharing institutions on the share of group members that are dissatisfied with government (model A4) and that feel discriminated (model A8). Again, I find no corresponding effect for liberal power-sharing institutions.

Fifth, as regards my mediating variables, I only attain a statistically significant, negative association of *status persistence* with both of my grievance measures (models A4 and A8). This association indicates, in line with my second mechanism, that non-core group members will be less likely to form grievances if they assess their political status to be time persistent. Conversely, I find no statistically significant independent effect of either de-facto government inclusion (*included non-core*) or discrimination (*discriminated*) on these outcomes. Again, while not substantiating mechanism 3 in my framework, I cannot rule it out either, as this variable captures political discrimination in a given year coded in expert assessments, as opposed to subjective expectations of non-core group members about the likelihood of future identity-based discrimination against them.

Table A4. Group-level mediation analysis: results I (*government dissatisfaction*).

	Included non-core (mechanism 1)	Status persistence (mechanism 2)	Discriminated (mechanism 3)	% government dissatisfaction
	Model A1	Model A2	Model A3	Model A4
Corporate PSI (group)	0.583*** (0.110)	35.456*** (6.632)	-0.033 (0.022)	-0.119*** (0.043)
Liberal PSI (group)	-0.022 (0.146)	-30.084*** (9.790)	-0.003 (0.020)	-0.042 (0.134)
Core	-0.578*** (0.123)	-29.487*** (5.675)	-0.025 (0.024)	-0.120** (0.055)
Core x corporate PSI (group)	-0.565*** (0.123)	-36.872*** (7.064)	0.025 (0.022)	0.028 (0.042)
Core x liberal PSI (group)	-0.081 (0.154)	30.293** (12.194)	0.024 (0.026)	-0.151 (0.111)
Included non-core				0.011 (0.030)
Status persistence				-0.001* (0.001)
Discriminated				-0.063 (0.064)
Relative size	0.325** (0.164)	-13.978* (7.618)	-0.027 (0.035)	0.203*** (0.055)
non-EPR group	-0.489*** (0.077)	23.617*** (4.429)	-0.026** (0.012)	0.044 (0.040)
Recent contestation	-0.102** (0.047)	-3.049 (1.934)	0.021* (0.012)	0.060** (0.029)
CPI	-0.0004 (0.007)	0.332 (0.240)	0.001 (0.001)	-0.047*** (0.008)
Polity (normalized)	0.037 (0.055)	1.206 (1.943)	-0.015 (0.023)	0.229*** (0.068)
GDP p.c. (logged)	0.029 (0.020)	-0.218 (0.787)	-0.003 (0.004)	0.036* (0.021)
Ethnic fractionalization	0.327** (0.140)	-9.911 (6.314)	-0.031 (0.033)	0.154** (0.069)
Age mean	-0.001 (0.002)	-0.051 (0.080)	-0.001* (0.001)	0.002 (0.003)
Female mean	0.078 (0.094)	3.188 (3.491)	-0.016 (0.019)	0.210* (0.127)
High education mean	0.061 (0.041)	5.648* (3.076)	-0.031** (0.014)	0.047 (0.104)
Political interest mean	0.068 (0.050)	1.350 (1.789)	-0.012 (0.010)	-0.114** (0.058)
Constant	-0.102 (0.252)	43.337*** (10.243)	0.137** (0.059)	-0.067 (0.215)
N	1357	1357	1357	1357
R-squared	0.718	0.758	0.084	0.431
Adj. R-squared	0.711	0.753	0.062	0.416
Residual Std. Error	4.046 (df = 1324)	184.452 (df = 1324)	1.635 (df = 1324)	3.844 (df = 1321)
F Statistic	105.143*** (df = 32; 1324)	129.901*** (df = 32; 1324)	3.792*** (df = 32; 1324)	28.554*** (df = 35; 1321)

* p<0.1; ** p<0.05; *** p<0.01. Survey- and region-fixed effects included but not reported. Country-clustered standard errors in parentheses.

Table A5. Group-level mediation analysis: results II (*feeling discriminated*).

	Included non-core (mechanism 1) Model A5	Status persistence (mechanism 2) Model A6	Discriminated (mechanism 3) Model A7	% feeling discriminated Model A8
Corporate PSI (group)	0.512*** (0.123)	42.370*** (4.551)	-0.017 (0.022)	-0.113* (0.068)
Liberal PSI (group)	-0.059 (0.166)	-36.173*** (11.550)	0.030 (0.019)	0.125 (0.086)
Core	-0.616*** (0.148)	-28.065*** (6.159)	0.002 (0.014)	-0.143** (0.065)
Core x corporate PSI (group)	-0.505*** (0.134)	-44.752*** (4.745)	0.006 (0.019)	0.072 (0.064)
Core x liberal PSI (group)	-0.048 (0.222)	35.009** (15.385)	-0.008 (0.019)	-0.084 (0.063)
Included non-core				0.002 (0.056)
Status persistence				-0.002*** (0.001)
Discriminated				0.049 (0.067)
Relative size	0.260 (0.185)	-18.656* (10.170)	-0.037* (0.021)	-0.009 (0.066)
non-EPR group	-0.518*** (0.095)	25.041*** (5.641)	-0.018* (0.011)	0.045 (0.050)
Recent contestation	-0.073 (0.062)	-3.098 (2.326)	0.021 (0.013)	0.073** (0.029)
CPI	-0.010 (0.012)	0.219 (0.445)	0.0001 (0.001)	-0.021** (0.008)
Polity (normalized)	0.030 (0.105)	-3.218 (5.105)	-0.033 (0.024)	0.160 (0.106)
GDP p.c. (logged)	0.059 (0.037)	1.032 (1.278)	-0.001 (0.002)	0.064** (0.025)
Ethnic fractionalization	0.212 (0.145)	-12.496 (7.904)	-0.044* (0.025)	0.015 (0.056)
Age mean	-0.003 (0.004)	-0.138 (0.122)	-0.001 (0.001)	-0.009*** (0.002)
Female mean	0.032 (0.087)	1.237 (4.479)	-0.033 (0.021)	0.169*** (0.065)
High education mean	-0.029 (0.084)	8.510** (4.322)	-0.036* (0.021)	0.128** (0.065)
Political interest mean	0.187** (0.089)	4.664 (4.085)	0.001 (0.013)	0.082 (0.064)
Constant	-0.196 (0.403)	46.236*** (14.429)	0.050 (0.076)	-0.115 (0.246)
N	723	723	723	723
R-squared	0.755	0.812	0.077	0.736
Adj. R-squared	0.747	0.806	0.047	0.726
Residual Std. Error	4.237 (df = 699)	190.550 (df = 699)	1.374 (df = 699)	2.386 (df = 696)
F Statistic	93.859*** (df = 23; 699)	131.342*** (df = 23; 699)	2.546*** (df = 23; 699)	74.501*** (df = 26; 696)

* p<0.1; ** p<0.05; *** p<0.01. Survey- and region-fixed effects included but not reported. Country-clustered standard errors in parentheses.

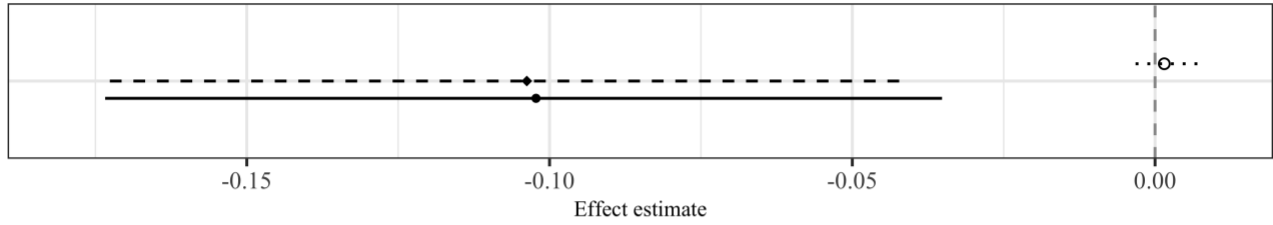
Appendix 3.1.3: Formal mediation analysis

Together, the above results already point to two cautious conclusions. First, they underline the importance of my second mechanism, whereby corporate power-sharing institutions provide credible guarantees that non-core groups' status attainments will be protected in the future, which in turn alleviates their grievances. Second, they highlight remaining direct effects of corporate power-sharing institutions on grievances that are not captured by my three mediating variables.

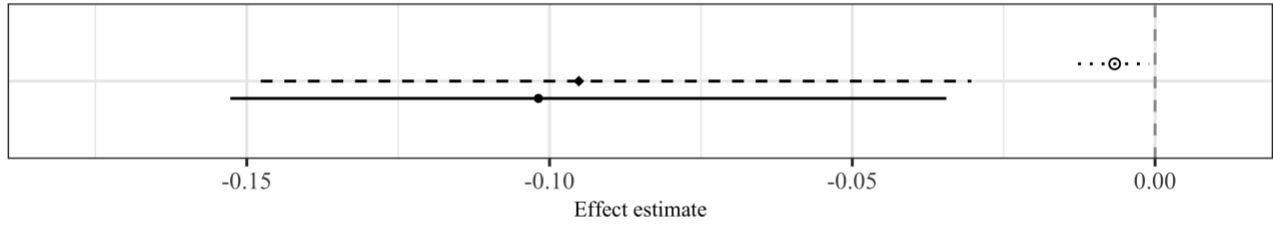
I follow up on these results in a more formal manner by conducting a causal mediation analysis, using the R-package *mediation* (Imai et al. 2011). This procedure yields the average mediated effect (ACME) of corporate power-sharing institutions through my three mediating variables (included non-core, *status persistence*, and *discriminated*), their average direct effects (ADE) through other channels, and their total effects.

The results from this procedure are graphically depicted in figures A3 (for *government dissatisfaction*) and A4 (for *feeling discriminated*). First, they produce further evidence in line with my second mechanism: a substantial proportion (~ 1/3) of the total effect of corporate power-sharing on non-core group grievances is mediated by the time persistence of a non-core group's political status (panel b in figures A3 and A4). In contrast, I find no strong evidence for an indirect effect of corporate power-sharing institutions on grievances mediated by simultaneous power-sharing practices (panel a in figures A3 and A4) and absence of political discrimination (panel c in figures A3 and A4). Second, the results again highlight that corporate power-sharing affects grievances through direct channels that are not captured by my mediating variables. These channels likely include expectations that a group's status is protected in the future, which is only imperfectly captured by my backwards-looking *time persistence* variable (mechanism 2). Moreover, they may also include non-core group members' assessments that their identity is recognized and protected, which is again only inadequately captured by my variable for current political *discrimination* (mechanism 3). Finally, it may be that my dichotomous variable for de-

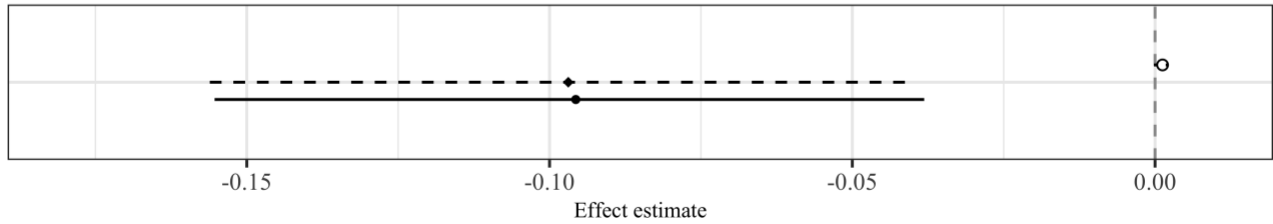
a) included non-core



b) status persistence



c) discriminated

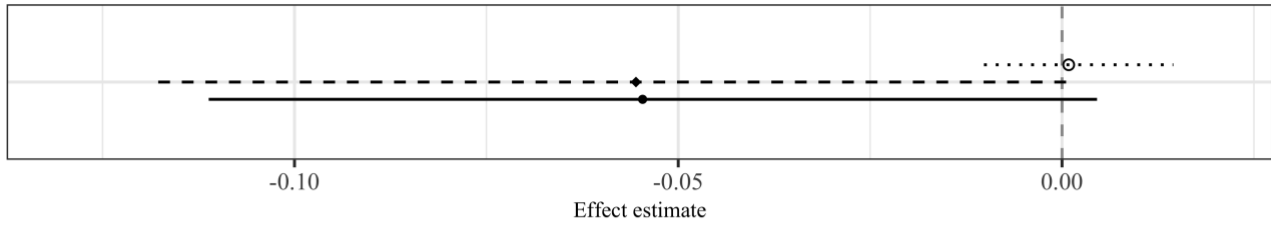


type • total ♦ ADE ○ ACME

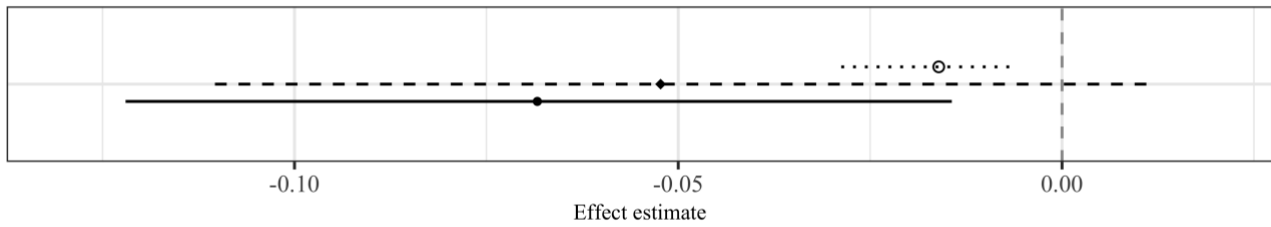
Figure A3. Average effects of corporate power-sharing institutions on % government dissatisfaction: indirect effects (mediated by de-facto government inclusion, status persistence, and discrimination) and direct effects (corresponding to other mechanisms) (based on models A1-A4, with country-clustered standard errors).

facto government inclusion does not capture important nuances in the degree of power-sharing practices enjoyed by a given non-core group (mechanism 1).

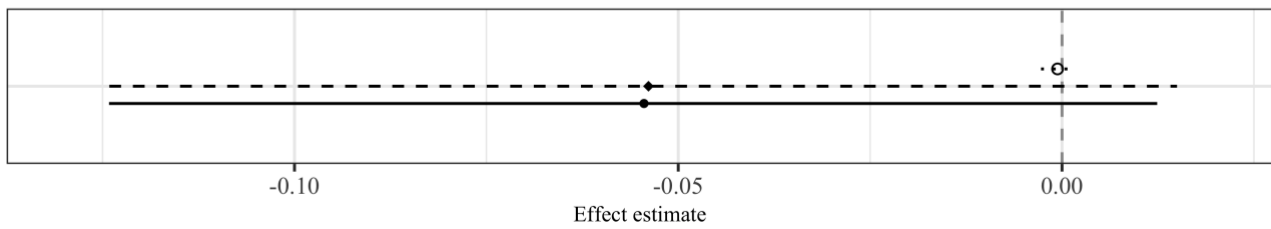
a) included non-core



b) status persistence



c) discriminated



type • total ♦ ADE ○ ACME

Figure A4. Average effects of corporate power-sharing institutions on % *feeling discriminated*: indirect effects (mediated by de-facto government inclusion, status persistence, and discrimination) and direct effects (corresponding to other mechanisms) (based on models A5-A8, with country-clustered standard errors).

Appendix 3.2: Additional group-level models

In a second step, I conduct additional group-level analyses to probe my hypothesized mechanisms for a more comprehensive sample that encompasses all non-core groups in the time period covered by my surveys (1992-2018). This serves two purposes. First, by employing the full, global sample for this time period, these models provide more representative, global evidence on the intermediate, observable steps of my three mechanisms. Second, for my second mechanism specifically, which posits that corporate power-sharing reassures non-core groups that their gains will persist into the future, I am able to use a more appropriate outcome variable. This captures the probability that a group will be downgraded in the next year, as opposed to the backwards-looking variable for status persistence I employed above.

My sample in each of these models encompasses all non-core groups covered by EPR (Vogt et al. 2015)⁴ in all multi-ethnic countries between 1992 and 2018. In total, it encompasses 693 non-core groups in 146 countries. In terms of independent variables, my set-up is equivalent to my main models. However, as my analysis proceeds on the group-level and contains numerous group years for which no survey evidence was available, I omit my individual-level controls, in contrast to the mediation models conducted above.

In terms of dependent variables, I again focus on the intermediate outcomes related to my three hypothesized mechanisms. Two of these outcomes are operationalized equivalently to my mediation models above: the de-facto government inclusion of a non-core group's representatives (mechanism 1) and political discrimination against a non-core group (mechanism 3). However, I replace my backwards-looking time persistence variable (mechanism 2) with a forward-looking dichotomous variable that captures whether a non-core group becomes excluded from the executive in the next following year (*included status downgraded*). This is a more appropriate operationalization of my second mechanism,

⁴ I exclude non-EPR groups, as these by definition are always coded as 'irrelevant' by EPR (Vogt et al. 2015); as a result, they are never coded as included or discriminated; moreover, it is also not possible to assess whether their status was downgraded.

which posits that corporate power-sharing constitutes the strongest reassurance that non-core group's political gains remain durable in the future.⁵

Table A6 shows the results from three logistic regression models, each taking one of these three dichotomous variables as the dependent variable. As the substantive relationships indicated by these logistic regressions are difficult to interpret and depend on the values of the other covariates, I illustrate my main findings using predicted probabilities (see figure A5).⁶

My findings from this more comprehensive sample are in line with the observable, intermediate implications of all three mechanisms. First, consistent with mechanism 1, I find that corporate power-sharing increases the probability that a non-core group's representatives are effectively included in the executive (model A9, cf. figure A5, panel a). Second, consistent with mechanism 2, I find that corporate power-sharing substantially reduces the chances that a non-core group will be downgraded in the following year (model A10, cf. figure A5, panel b). Third, and in accordance with mechanism 3, I find that corporate power-sharing substantially decreases the chance that a non-core group is discriminated against (model A11, cf. figure A5, panel c). In all cases, I attain no similar relationship of liberal power-sharing with these outcomes.

⁵ In my model focusing on this outcome, I exclude non-core groups that are not currently included in government according to EPR (Vogt et al. 2015) from my sample, as these by definition cannot become downgraded in the following year.

⁶ For this purpose, I held constant all numerical control variables at their mean and all categorical variables at their mode.

Table A6. Additional group-level models.

	Included NC Model A9	Included status downgraded Model A10	Discriminated Model A11
Corporate PSI (group)	1.171** (0.575)	-2.736** (1.339)	-4.554** (2.016)
Liberal PSI (group)	0.295 (0.771)	0.390 (1.273)	0.081 (1.194)
Relative size	5.868*** (1.106)	0.326 (1.386)	-1.515 (1.331)
Recent contestation	-0.401 (0.272)	0.281 (0.350)	0.418 (0.315)
CPI	0.251 (0.153)	-0.220 (0.206)	-0.340** (0.172)
Polity (normalized)	1.988*** (0.571)	-0.060 (0.909)	-1.044 (0.718)
GDP p.c. (logged)	-0.043 (0.188)	-0.529* (0.280)	0.499** (0.218)
Ethnic fractionalization	3.382*** (1.013)	-1.371 (0.903)	-0.753 (0.960)
Constant	-5.179*** (1.794)	1.828 (2.322)	-3.966** (1.808)
N	16724	4415	16724
Log Likelihood	-6651.464	-350.440	-5053.487
AIC	13330.930	728.880	10134.970

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Survey- and region-fixed effects included but not reported. Country-clustered standard errors in parentheses.

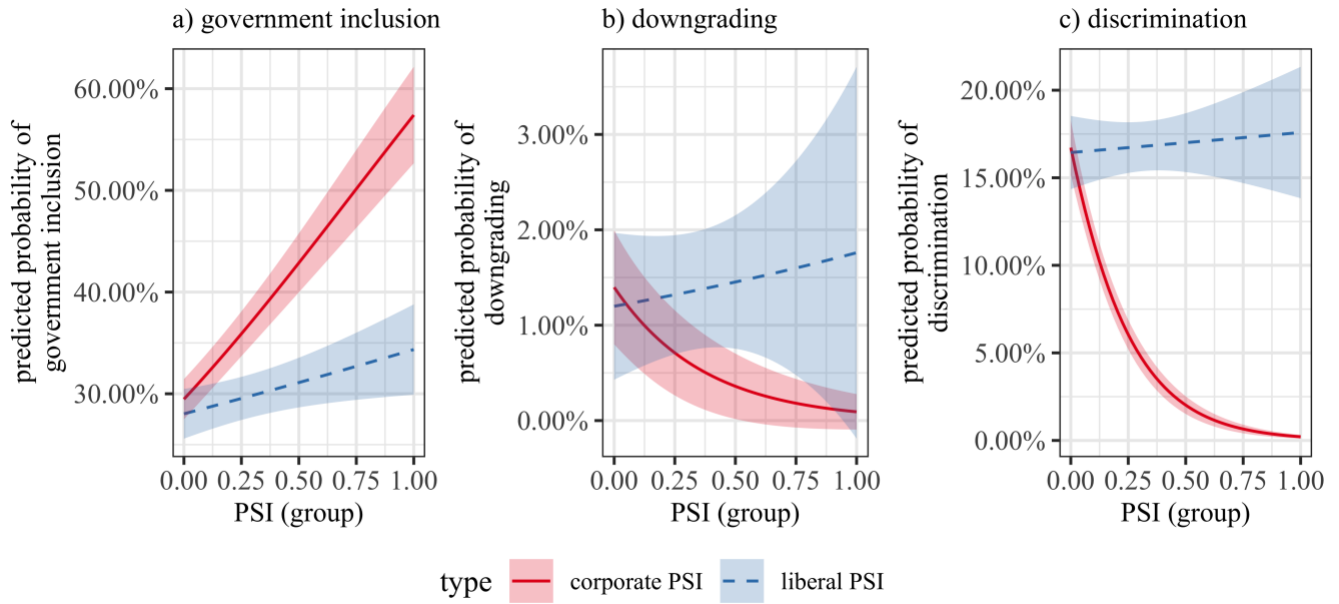


Figure A5. Predicted probability of non-core group de-facto government inclusion, downgrading in subsequent year, and discrimination, depending on de-jure corporate and liberal power-sharing institutions (PSI) (models A9, A10, A11).

Appendix 4: Robustness checks

Appendix 4.1: Robustness to dependent variable alterations

Appendix 4.1.1: Subset to survey items measuring dissatisfaction with central government, excluding dissatisfaction with parliament (dependent variable I)

Table A7. Robustness to dependent variable alterations.

	Executive dissatisfaction			
	Model A12	Model A13	Model A14	Model A15
Included non-core	0.045 (0.066)			
Corporate PSI (group)		-0.410** (0.185)	-0.581** (0.229)	-0.346* (0.185)
Liberal PSI (group)		0.070 (0.258)	0.099 (0.259)	0.065 (0.257)
Corporate PSI (difference, domestic)			-0.211 (0.358)	
Corporate PSI (difference, TEK)				0.615** (0.272)
Core	-0.646*** (0.092)	-0.593*** (0.108)	-0.568*** (0.109)	-0.616*** (0.112)
Core x corporate PSI (group)		0.259 (0.167)	0.307* (0.170)	0.260 (0.167)
Core x liberal PSI (group)		-0.412* (0.237)	-0.472** (0.239)	-0.357 (0.237)
Core x corporate PSI (difference, domestic)			-1.188* (0.692)	
Core x corporate PSI (difference, TEK)				0.134 (0.421)
Relative size	1.005*** (0.131)	1.042*** (0.129)	1.060*** (0.129)	1.037*** (0.129)
non-EPR group	-0.154* (0.092)	-0.218** (0.088)	-0.209** (0.089)	-0.206** (0.087)
Recent contestation	0.193*** (0.052)	0.199*** (0.052)	0.203*** (0.052)	0.192*** (0.051)
CPI	-0.191*** (0.044)	-0.198*** (0.043)	-0.206*** (0.043)	-0.180*** (0.044)
Polity (normalized)	0.812*** (0.282)	0.826*** (0.277)	0.790*** (0.278)	0.790*** (0.279)
GDP p.c. (logged)	0.140 (0.090)	0.149* (0.088)	0.162* (0.088)	0.138 (0.088)
Ethnic fractionalization	0.671** (0.335)	0.756** (0.325)	0.762** (0.328)	0.838** (0.331)
Age	-0.005*** (0.0002)	-0.005*** (0.0002)	-0.005*** (0.0002)	-0.005*** (0.0002)
Female	-0.022*** (0.006)	-0.022*** (0.006)	-0.022*** (0.006)	-0.022*** (0.006)
High education	-0.007 (0.008)	-0.007 (0.008)	-0.007 (0.008)	-0.006 (0.008)
Political interest	-0.356*** (0.006)	-0.356*** (0.006)	-0.356*** (0.006)	-0.356*** (0.006)
Constant	-2.528*** (0.783)	-2.581*** (0.761)	-2.635*** (0.762)	-2.592*** (0.766)
N	654239	654239	654239	654239
Log Likelihood	-387031.200	-387027.600	-387025.200	-387022.700
AIC	774128.500	774127.300	774126.400	774121.300
BIC	774504.400	774537.300	774559.300	774554.200

* p<0.1; ** p<0.05; *** p<0.01. Survey- and region-fixed effects included but not reported.

Appendix 4.1.2: Sequential exclusion of each unique survey wave

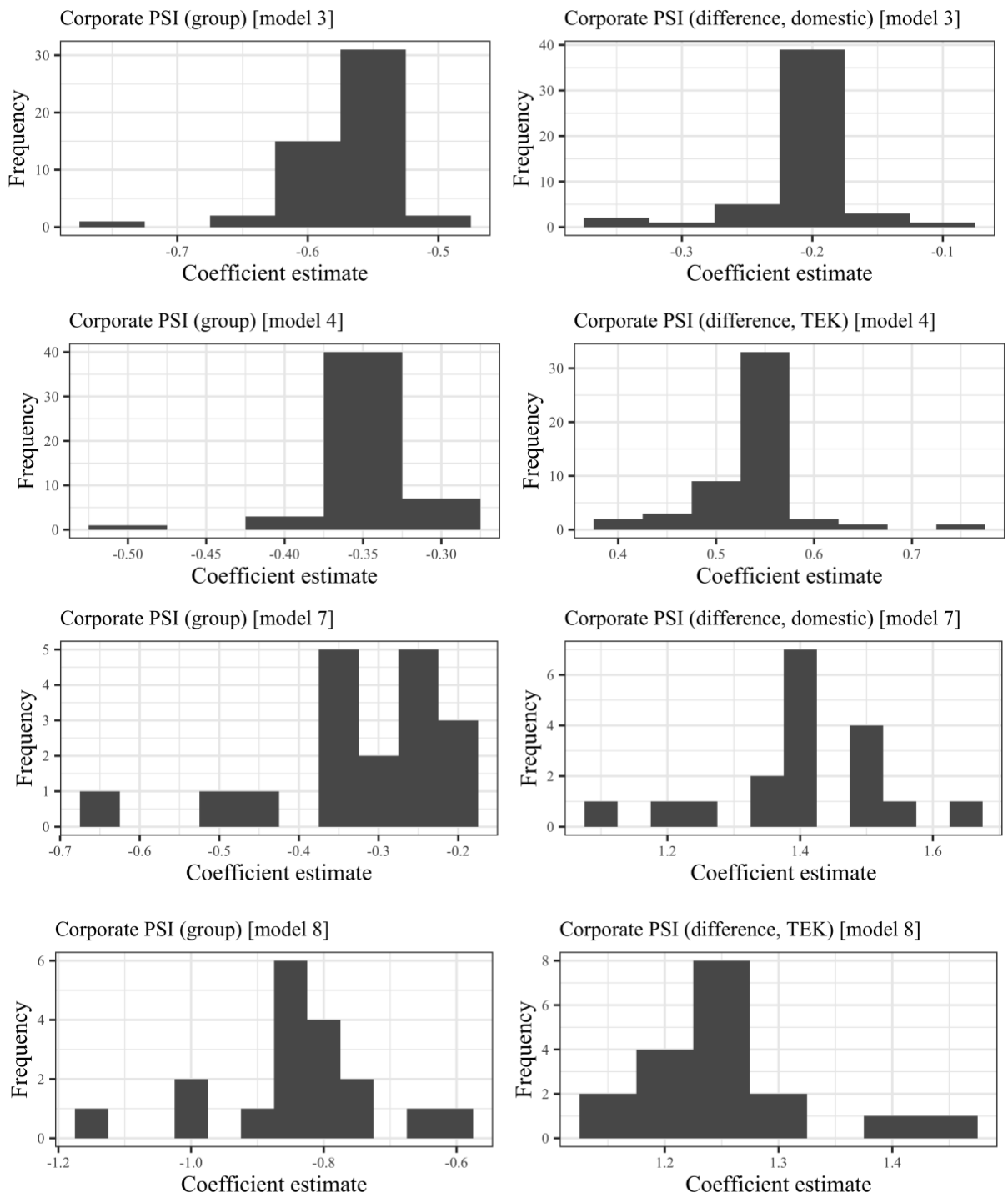


Figure A6. Jackknife estimations of models 3, 4, 7, and 8.

Appendix 4.2.5: Only non-core groups

Table A12. Robustness to excluding core groups.

	Government dissatisfaction				Feeling discriminated			
	Model A48	Model A49	Model A50	Model A51	Model A52	Model A53	Model A54	Model A55
Included non-core	0.132 (0.092)				-0.388*** (0.123)			
Corporate PSI (group)		-0.417* (0.230)	-0.428 (0.268)	-0.373 (0.232)		-0.939*** (0.319)	-0.308 (0.426)	-0.915*** (0.317)
Liberal PSI (group)		-0.251 (0.298)	-0.253 (0.299)	-0.259 (0.298)		0.619 (0.426)	0.613 (0.422)	0.638 (0.423)
Corporate PSI (difference, domestic)			-0.031 (0.413)				1.230** (0.573)	
Corporate PSI (difference, TEK)				0.490 (0.312)				1.118** (0.438)
Relative size	0.331 (0.310)	0.502 (0.312)	0.500 (0.313)	0.463 (0.311)	-1.342*** (0.425)	-1.226*** (0.430)	-1.072** (0.434)	-1.295*** (0.427)
non-EPR group	-0.104 (0.118)	-0.230** (0.109)	-0.228** (0.111)	-0.219** (0.109)	-0.331** (0.157)	-0.192 (0.147)	-0.257* (0.149)	-0.178 (0.146)
Recent contestation	0.283*** (0.072)	0.311*** (0.071)	0.310*** (0.072)	0.309*** (0.071)	0.137 (0.102)	0.135 (0.103)	0.155 (0.103)	0.149 (0.102)
CPI	-0.215*** (0.060)	-0.227*** (0.058)	-0.228*** (0.059)	-0.225*** (0.059)	-0.150 (0.095)	-0.182* (0.097)	-0.172* (0.096)	-0.177* (0.097)
Polity (normalized)	0.442 (0.352)	0.450 (0.342)	0.447 (0.343)	0.478 (0.345)	-0.382 (0.772)	-0.501 (0.787)	-0.516 (0.769)	-0.540 (0.786)
GDP p.c. (logged)	0.136 (0.114)	0.160 (0.110)	0.161 (0.111)	0.168 (0.111)	0.350* (0.186)	0.355* (0.191)	0.348* (0.185)	0.365* (0.191)
Ethnic fractionalization	0.734 (0.448)	0.856** (0.428)	0.862** (0.435)	0.856** (0.432)	0.062 (0.807)	0.093 (0.831)	-0.099 (0.808)	0.083 (0.831)
Age	-0.005*** (0.0004)	-0.005*** (0.0004)	-0.005*** (0.0004)	-0.005*** (0.0004)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
Female	-0.025** (0.012)	-0.025** (0.012)	-0.025** (0.012)	-0.025** (0.012)	-0.067*** (0.018)	-0.068*** (0.018)	-0.068*** (0.018)	-0.068*** (0.018)
High education	0.039* (0.021)	0.039* (0.021)	0.039* (0.021)	0.039* (0.021)	0.146*** (0.033)	0.147*** (0.033)	0.147*** (0.033)	0.147*** (0.033)
Political interest	-0.272*** (0.013)	-0.272*** (0.013)	-0.272*** (0.013)	-0.272*** (0.013)	0.057*** (0.019)	0.057*** (0.019)	0.057*** (0.019)	0.056*** (0.019)
Constant	-2.144** (0.991)	-2.225** (0.956)	-2.231** (0.959)	-2.348** (0.966)	-3.231* (1.879)	-3.200* (1.940)	-3.385* (1.880)	-3.339* (1.940)
N	132592	132592	132592	132592	75569	75569	75569	75569
Log Likelihood	-78770.710	-78768.920	-78768.920	-78767.700	-37909.060	-37909.660	-37907.320	-37906.370
AIC	157605.400	157603.800	157605.800	157603.400	75864.120	75867.320	75864.640	75862.730
BIC	157918.900	157927.100	157938.900	157936.400	76076.480	76088.900	76095.460	76093.550

* p<0.1; ** p<0.05; *** p<0.01. Survey- and region-fixed effects included but not reported.

Appendix 4.3: Robustness to different contexts (sample subsets)

Appendix 4.3.1: Only democratic contexts (Polity index ≥ 6)

Table A13. Robustness to sample subsets I.

	Government dissatisfaction				Feeling discriminated			
	Model A56	Model A57	Model A58	Model A59	Model A60	Model A61	Model A62	Model A63
Included non-core	0.078 (0.073)				-0.407*** (0.104)			
Corporate PSI (group)		-0.680*** (0.196)	-0.781*** (0.234)	-0.626*** (0.196)		-1.030*** (0.268)	-0.284 (0.355)	-0.992*** (0.267)
Liberal PSI (group)		-0.325 (0.308)	-0.273 (0.311)	-0.322 (0.308)		0.475 (0.456)	0.238 (0.453)	0.496 (0.455)
Corporate PSI (difference, domestic)			-0.027 (0.407)				1.720*** (0.508)	
Corporate PSI (difference, TEK)				0.798** (0.326)				1.013** (0.420)
Core	-0.486*** (0.104)	-0.511*** (0.116)	-0.482*** (0.117)	-0.530*** (0.120)	-0.658*** (0.146)	-0.309* (0.161)	-0.304* (0.160)	-0.294* (0.166)
Core x corporate PSI (group)		0.095 (0.180)	0.153 (0.183)	0.083 (0.179)		0.441* (0.258)	0.557** (0.262)	0.406 (0.260)
Core x liberal PSI (group)		-0.208 (0.265)	-0.277 (0.266)	-0.129 (0.264)		-0.447 (0.387)	-0.477 (0.390)	-0.371 (0.387)
Core x corporate PSI (difference, domestic)			-1.187 (0.727)				-1.965** (0.912)	
Core x corporate PSI (difference, TEK)				-0.111 (0.437)				-0.500 (0.565)
Relative size	0.822*** (0.143)	0.889*** (0.140)	0.903*** (0.139)	0.871*** (0.140)	-0.533*** (0.201)	-0.663*** (0.202)	-0.606*** (0.201)	-0.726*** (0.203)
non-EPR group	-0.171 (0.105)	-0.290** (0.099)	-0.291** (0.102)	-0.281*** (0.098)	-0.143 (0.141)	-0.037 (0.132)	-0.150 (0.135)	-0.037 (0.131)
Recent contestation	0.292*** (0.055)	0.305*** (0.055)	0.310*** (0.055)	0.303*** (0.055)	0.296*** (0.083)	0.341*** (0.086)	0.367*** (0.085)	0.348*** (0.085)
CPI	-0.147*** (0.047)	-0.172*** (0.042)	-0.176*** (0.043)	-0.147*** (0.044)	-0.026 (0.067)	-0.042 (0.068)	-0.044 (0.066)	-0.027 (0.069)
Polity (normalized)	0.515 (0.904)	0.569 (0.843)	0.493 (0.850)	0.436 (0.850)	-0.322 (1.421)	-0.092 (1.436)	0.362 (1.410)	-0.123 (1.433)
GDP p.c. (logged)	0.165 (0.101)	0.195** (0.092)	0.203** (0.093)	0.180* (0.093)	0.207 (0.164)	0.194 (0.168)	0.176 (0.162)	0.186 (0.169)
Ethnic fractionalization	0.742** (0.359)	0.865*** (0.318)	0.869*** (0.321)	0.971*** (0.327)	-0.124 (0.611)	-0.110 (0.630)	-0.252 (0.600)	-0.023 (0.641)
Age	-0.004*** (0.0002)	-0.004*** (0.0002)	-0.004*** (0.0002)	-0.004*** (0.0002)	-0.004*** (0.0004)	-0.004*** (0.0004)	-0.004*** (0.0004)	-0.004*** (0.0004)
Female	-0.004 (0.006)	-0.004 (0.006)	-0.004 (0.006)	-0.004 (0.006)	-0.035*** (0.013)	-0.035*** (0.013)	-0.035*** (0.013)	-0.035*** (0.013)
High education	-0.050*** (0.009)	-0.049*** (0.009)	-0.049*** (0.009)	-0.049*** (0.009)	0.120*** (0.019)	0.120*** (0.019)	0.120*** (0.019)	0.120*** (0.019)
Political interest	-0.388*** (0.006)	-0.388*** (0.006)	-0.388*** (0.006)	-0.388*** (0.006)	0.134*** (0.013)	0.134*** (0.013)	0.134*** (0.013)	0.134*** (0.013)
Constant	-2.130** (1.006)	-2.154** (0.922)	-2.162** (0.926)	-2.073** (0.931)	-0.966 (1.386)	-1.317 (1.419)	-1.514 (1.366)	-1.394 (1.421)
N	551147	551147	551147	551147	269048	269048	269048	269048
Log Likelihood	-	-	-	-	-86287.370	-86287.370	-86281.140	-86283.790
AIC	326492.100	326484.400	326482.600	326479.000	172620.700	172626.700	172618.300	172623.600
BIC	653407.200	653431.400	653454.400	653447.200	172862.300	172899.800	172912.400	172917.700

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Survey- and region-fixed effects included but not reported.

Appendix 4.5: Robustness to independent variable alterations: power-sharing 'stocks' instead of current levels

In this appendix, I replace my measures for contemporaneous power-sharing practices and institutions (*included non-core / corporate PSI (group) / liberal PSI (group)*) with corresponding measures of gradually accumulating power-sharing 'stocks'. These reflect the cumulative time that each group has enjoyed power-sharing as well as its degree (for corporate PSI). For this purpose, I add up the group-wise sum of my original measures since 1946 (for former colonies, since independence) with a 1% depreciation rate.⁷ Formally, for a group g in a given year t , these measures are calculated as follows:

$$\text{Included NC stock (group)}_{gt} = \sum_s^t 0.99^{t-s} \times \text{Included NC}_{gs} \quad (1)$$

$$\text{Corporate PSI stock (group)}_{gt} = \sum_s^t 0.99^{t-s} \times \text{Corporate PSI (group)}_{gs} \quad (1)$$

$$\text{Liberal PSI stock (group)}_{gt} = \sum_s^t 0.99^{t-s} \times \text{Liberal PSI (group)}_{gs} \quad (1)$$

where s is any preceding year since 1946 or independence and *included NC*_{gs}, *corporate PSI (group)*_{gs}, and *liberal PSI (group)*_{gs} my original variable indicating whether group g was included in government and/or its degree of corporate/liberal power-sharing in said year. These measures capture the alternative depillarization mechanism well, whereby continued power-sharing entices gradual societal moderation, and thereby reduces grievances over time (Lijphart 1977): It increases the longer a group has been subject to power-sharing. It remains at high levels, even where a group is intermittently excluded (and where it might reasonably expect to attain power-sharing again in the near future). However, it starts to decrease substantially as periods of exclusion last longer, and confidence in renewed inclusion decreases.

⁷ This is analogous to how Gerring and colleagues (2005) account for the gradually accumulating effects of democracy. A special case are groups that newly appear over time, either due to independence from another country or due to changes in politically relevant groups' composition. For these groups, I identified their respective predecessor(s) and constructed the measure analogously.

Table A17. Power-sharing stocks instead of contemporaneous levels.

	Government dissatisfaction		Feeling discriminated	
	Model A88	Model A89	Model A90	Model A91
Included NC stock	0.006 ^{***} (0.001)		-0.003 (0.002)	
Corporate PSI stock (group)		0.003 (0.005)		-0.023 ^{***} (0.007)
Liberal PSI stock (group)		-0.013 (0.009)		0.001 (0.013)
Core	-0.660 ^{***} (0.073)	-0.744 ^{***} (0.096)	-0.416 ^{***} (0.105)	-0.392 ^{***} (0.134)
Core x corporate PSI stock (group)		-0.006 (0.005)		0.002 (0.008)
Core x liberal PSI stock (group)		0.012 [*] (0.006)		-0.004 (0.009)
Relative size	0.790 ^{***} (0.132)	1.009 ^{***} (0.126)	-0.530 ^{***} (0.198)	-0.546 ^{***} (0.183)
non-EPR group	-0.061 (0.088)	-0.186 ^{**} (0.086)	-0.067 (0.126)	-0.109 (0.119)
Recent contestation	0.209 ^{***} (0.050)	0.172 ^{***} (0.051)	0.225 ^{***} (0.079)	0.236 ^{***} (0.079)
CPI	-0.189 ^{***} (0.043)	-0.190 ^{***} (0.042)	-0.101 [*] (0.061)	-0.106 [*] (0.062)
Polity (normalized)	0.871 ^{***} (0.279)	0.895 ^{***} (0.275)	-0.512 (0.536)	-0.578 (0.541)
GDP p.c. (logged)	0.132 (0.090)	0.163 [*] (0.089)	0.242 [*] (0.132)	0.237 [*] (0.135)
Ethnic fractionalization	0.676 ^{**} (0.331)	0.788 ^{**} (0.324)	-0.023 (0.543)	0.265 (0.559)
Age	-0.005 ^{***} (0.0002)	-0.005 ^{***} (0.0002)	-0.004 ^{***} (0.0004)	-0.004 ^{***} (0.0004)
Female	-0.023 ^{***} (0.005)	-0.023 ^{***} (0.005)	-0.037 ^{***} (0.012)	-0.037 ^{***} (0.012)
High education	-0.012 (0.008)	-0.012 (0.008)	0.106 ^{***} (0.018)	0.106 ^{***} (0.018)
Political interest	-0.360 ^{***} (0.006)	-0.360 ^{***} (0.006)	0.104 ^{***} (0.012)	0.104 ^{***} (0.012)
Constant	-2.585 ^{***} (0.777)	-2.717 ^{***} (0.766)	-3.115 ^{**} (1.412)	-2.955 ^{**} (1.438)
N	672780	672780	300890	300890
Log Likelihood	-398263.600	-398270.200	-102375.000	-102367.500
AIC	796593.300	796612.400	204797.900	204789.000
BIC	796970.100	797023.500	205052.700	205075.600

* p<0.1; ** p<0.05; *** p<0.01. Survey- and region-fixed effects included but not reported.

Appendix 4.6: Robustness to interacting relative difference measures with individuals' political interest

Table A18. Interaction of relative difference measures with political interest.

	Government dissatisfaction		Feeling discriminated	
	Model A92	Model A93	Model A94	Model A95
Corporate PSI (group)	-0.570** (0.227)	-0.344* (0.183)	-0.330 (0.330)	-0.851*** (0.257)
Liberal PSI (group)	0.054 (0.255)	0.012 (0.253)	0.493 (0.367)	0.500 (0.368)
Corporate PSI (difference, domestic)	-0.218 (0.360)		1.512*** (0.471)	
Corporate PSI (difference, domestic) x political interest	0.052 (0.147)		-0.309* (0.186)	
Corporate PSI (difference, TEK)		0.543** (0.273)		1.623*** (0.423)
Corporate PSI (difference, TEK) x political interest		-0.031 (0.123)		-0.598*** (0.205)
Core	-0.489*** (0.108)	-0.538*** (0.111)	-0.485*** (0.151)	-0.451*** (0.155)
Core x corporate PSI (group)	0.323* (0.166)	0.278* (0.163)	0.658*** (0.254)	0.511** (0.251)
Core x liberal PSI (group)	-0.484** (0.235)	-0.368 (0.233)	-0.371 (0.350)	-0.243 (0.345)
Core x corporate PSI (difference, domestic)	-1.169* (0.687)		-1.843** (0.919)	
Core x corporate PSI (difference, domestic) x political interest	-0.007 (0.192)		0.200 (0.337)	
Core x corporate PSI (difference, TEK)		0.165 (0.419)		-1.185** (0.570)
Core x corporate PSI (difference, TEK) x political interest		0.049 (0.133)		0.776*** (0.231)
Relative size	-0.270*** (0.013)	-0.268*** (0.013)	0.067*** (0.020)	0.082*** (0.020)
non-EPR group	1.035*** (0.128)	1.014*** (0.128)	-0.502*** (0.186)	-0.629*** (0.185)
Recent contestation	-0.206** (0.088)	-0.204** (0.086)	-0.199 (0.124)	-0.101 (0.120)
CPI	0.204*** (0.051)	0.193*** (0.050)	0.254*** (0.079)	0.234*** (0.079)
Polity (normalized)	-0.203*** (0.042)	-0.178*** (0.043)	-0.105* (0.061)	-0.093 (0.063)
GDP p.c. (logged)	0.859*** (0.272)	0.869*** (0.274)	-0.554 (0.535)	-0.599 (0.548)
Ethnic fractionalization	0.168* (0.087)	0.145* (0.087)	0.219* (0.132)	0.215 (0.137)
Age	0.836*** (0.321)	0.928*** (0.325)	-0.082 (0.544)	0.129 (0.572)
Female	-0.005*** (0.0002)	-0.005*** (0.0002)	-0.004*** (0.0004)	-0.004*** (0.0004)
High education	-0.023*** (0.005)	-0.023*** (0.005)	-0.037*** (0.012)	-0.037*** (0.012)
Political interest	-0.011 (0.008)	-0.011 (0.008)	0.105*** (0.018)	0.104*** (0.018)
Core x political interest	-0.114*** (0.015)	-0.116*** (0.015)	0.071*** (0.026)	0.043 (0.026)
Constant	-2.811*** (0.748)	-2.785*** (0.755)	-3.046** (1.418)	-2.926** (1.471)
N	672780	672780	300890	300890
Log Likelihood	-398234.400	-398232.600	-102357.200	-102352.700
AIC	796550.900	796547.300	204778.500	204769.400
BIC	797019.100	797015.400	205118.100	205109.000

* p<0.1; ** p<0.05; *** p<0.01. Survey- and region-fixed effects included but not reported.

Appendix 5: Group-level measurement model approach

Appendix 5.1: Description

I rely on the approach and code by Claassen (2019), applying his Bayesian dynamic latent trait modeling framework to obtain smoothed estimates for the 'latent grievances' θ by ethnic group members given by my individual-level survey sample. I do so for each year in which a group's country in my sample existed since 1992 (the year of the first included survey wave). I combine but explicitly distinguish between all question items tapping into the concept of grievances in my sample (dissatisfaction with the cabinet, dissatisfaction with the head of state, dissatisfaction with the parliament, and perception of belonging to a discriminated group). Owing to the limited cross-availability of the different survey items for each group, I construct a measurement model analogously to the simple model type 1 in Claassen's list of models. This models the number of respondents offering an affirmative opinion (of being dissatisfied with a central government institution or perceiving one's group to be discriminated) as a binomial distribution and includes item specific intercepts.

I estimate my measurement model analogously to Claassen (2019) using Bayesian Markov-Chain Monte Carlo methods in R via Stan (Carpenter et al. 2017). I run four parallel chains for 1000 samples each, with 500 samples in each chain used for warm up and discarded, and the remaining 2000 samples thinned by half and analyzed further. The result of this procedure is a set of latent group-year estimates θ , which combine respondent responses to the various question items into a standardized variable for latent grievances.

Before turning to an analysis that replicates my main models using these θ estimates as the dependent variable, I provide a number of basic validation tests for this group-level measurement model. Table A19 presents a number of internal model validation measures, analogously to the left-hand side of Claassen's (2019) table 3. Most importantly, it conducts a test of the model's predictive accuracy. It does so by reporting the mean absolute error (MAE). This measures the average discrepancy between the

observed proportions of each group's respondents voicing an aggrieved attitude, given by the various included survey items, and the simulated proportions thereof based on the measurement model (cf. Claassen 2019: 9-12). This highlights a clear, if limited (38.5% improvement versus group means), improvement of using the model estimates as compared to 'naive' estimates given by group means, item means, and grand means (0.097 versus 0.158, 0.154, and 0.214, respectively). Additionally, table A19 also shows the 'Leave-One-Out' information criterion. Figure A7 further provides a graphical illustration of this modeling procedure by reporting both yearly *theta* estimates and observed values of the various survey items (standardized similar to Claassen 2019: 14) for Russian co-ethnics in the successor states of the Soviet Union since 1992.

Table A19. Internal model validation.

	Mean absolute error (MAE)	% Improvement in MAE	Leave-One-Out information Criterion
Model	0.097	38.5	153150.38
Group means	0.158	NA	NA
Item means	0.154	2.5	NA
Grand mean	0.214	-35.6	NA

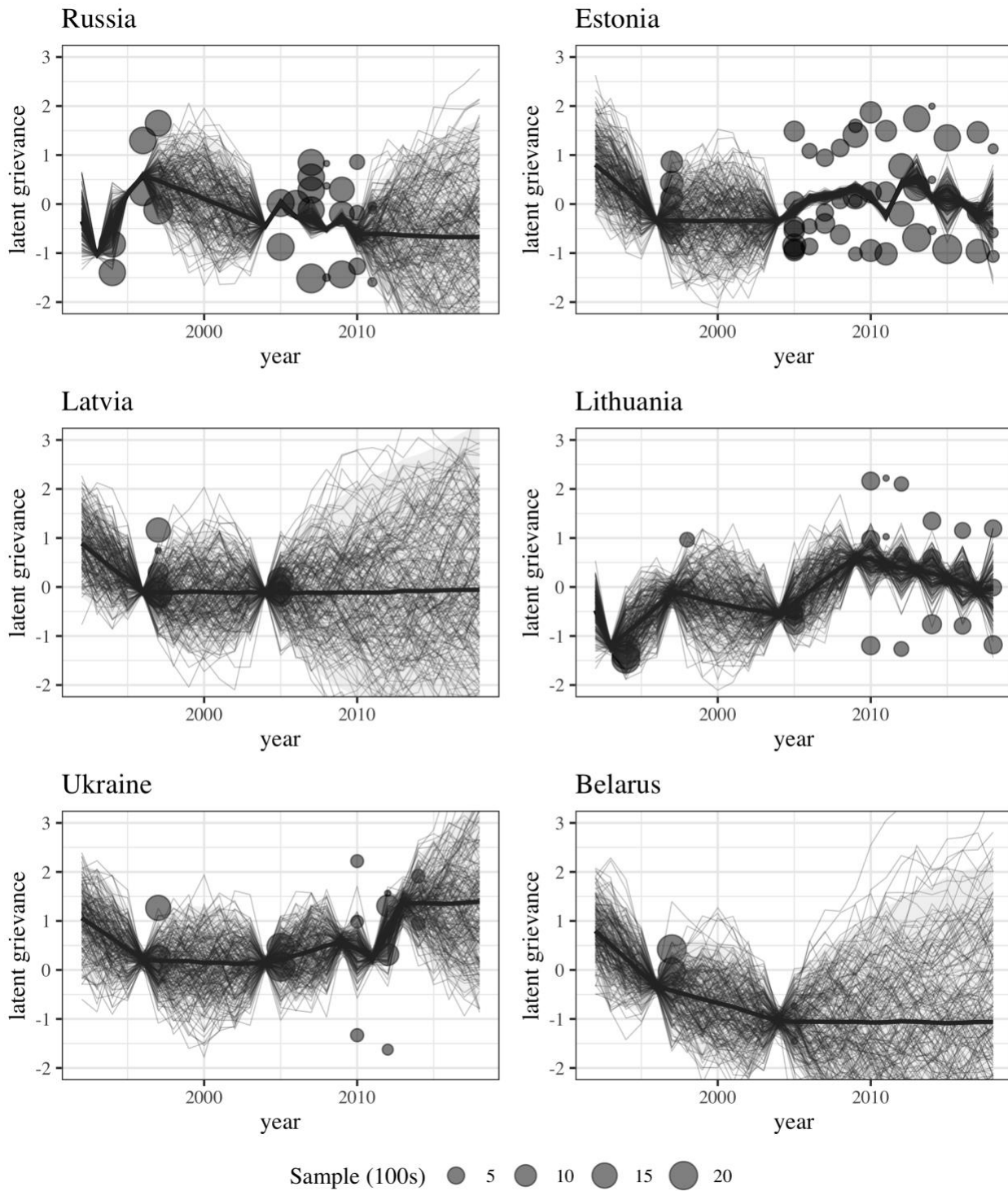


Figure A7. Latent grievance estimates and observed, standardized responses in underlying survey items for Russian co-ethnics settling in six successor states of the Soviet Union, 1992-2017.

Note: constructed analogously to Claassen (2019), figure 3.

Appendix 5.2: Results

I now use *theta*, the estimated latent group-year grievances given by the above procedure, as my dependent variable to replicate my main models (excluding model 2.5, for which individual-level ethnic identification information is required). My unit of analysis is the group-year. I only include group years that are included in my original survey sample, thereby discarding those group years where I have no independent information on grievances. Thereby, I avoid using extrapolated dependent variables, which would risk yielding overly optimistic standard errors. I run a number of standard OLS regressions with *theta* as my dependent variable, reporting country-clustered standard errors. As independent variables, I include the same group- and country-year level independent and control variables I already used in my main models. Similar to my mediation analysis (appendix 3), I transform my individual-level covariates to their group-year means.

The results are comparable to my individual-level estimates and mainly remain in accordance with my hypotheses (table A20). First, they again highlight a grievance gap between core and non-core groups, with the former being far less likely to voice aggrieved attitudes. Second, they again indicate that corporate power-sharing is an effective measure to close this grievance gap, given by its negative and statistically significant coefficient in models A97-A99. Third, I conversely again obtain no meaningful estimate for the mere descriptive inclusion of a non-core group into government (model A89) or for liberal power-sharing, although its coefficient now takes a negative sign (models A97-99). Finally, the results again indicate that situations where group members attain lower degrees of power-sharing than their 'peers' in the same country (model A98) and ethnic kin group (model A99) contribute to the formation of grievances, although the former term is not statistically significant in this set-up.

Table A20. Group-level measurement approach: results.

	Theta Model A96	Theta Model A97	Theta Model A98	Theta Model A99
Included non-core	-0.077 (0.084)			
Corporate PSI (group)		-0.392* (0.214)	-0.390* (0.215)	-0.373* (0.214)
Liberal PSI (group)		-0.339 (0.474)	-0.339 (0.473)	-0.323 (0.474)
Corporate PSI (difference, domestic)			0.190 (0.279)	
Corporate PSI (difference, TEK)				0.755* (0.420)
Core	-0.442*** (0.112)	-0.411*** (0.139)	-0.386*** (0.147)	-0.376*** (0.136)
Core x corporate PSI (group)		0.230 (0.171)	0.256 (0.175)	0.207 (0.173)
Core x liberal PSI (group)		-0.158 (0.283)	-0.195 (0.292)	-0.162 (0.281)
Core x corporate PSI (difference, domestic)			-1.138 (1.125)	
Core x corporate PSI (difference, TEK)				-0.636 (0.458)
Relative size	0.543*** (0.166)	0.621*** (0.161)	0.624*** (0.161)	0.588*** (0.161)
non-EPR group	-0.008 (0.097)	-0.002 (0.095)	-0.022 (0.095)	0.009 (0.094)
Recent contestation	0.166 (0.112)	0.172 (0.107)	0.173 (0.108)	0.178* (0.107)
CPI	-0.147*** (0.037)	-0.154*** (0.035)	-0.157*** (0.035)	-0.152*** (0.036)
Polity (normalized)	0.261 (0.268)	0.190 (0.267)	0.164 (0.269)	0.172 (0.265)
GDP p.c. (logged)	0.151* (0.083)	0.171** (0.082)	0.176** (0.082)	0.179** (0.082)
Ethnic fractionalization	0.310 (0.296)	0.534** (0.258)	0.512* (0.267)	0.523** (0.260)
Age mean	-0.0004 (0.009)	-0.0003 (0.009)	0.00004 (0.009)	-0.001 (0.009)
Female mean	0.551* (0.321)	0.536 (0.327)	0.527 (0.326)	0.529 (0.325)
High education mean	0.385 (0.289)	0.278 (0.295)	0.284 (0.296)	0.290 (0.293)
Political interest mean	-0.149 (0.184)	-0.168 (0.181)	-0.173 (0.183)	-0.172 (0.181)
Constant	-2.296*** (0.694)	-2.368*** (0.714)	-2.396*** (0.712)	-2.434*** (0.708)
N	1210	1210	1210	1210
R-squared	0.275	0.301	0.302	0.304
Adj. R-squared	0.264	0.288	0.289	0.291
Residual Std. Error	0.556 (df = 1191)	0.547 (df = 1188)	0.547 (df = 1186)	0.546 (df = 1186)
F Statistic	25.104*** (df = 18; 1191)	24.332*** (df = 21; 1188)	22.342*** (df = 23; 1186)	22.555*** (df = 23; 1186)

* p<0.1; ** p<0.05; *** p<0.01. Survey- and region-fixed effects included but not reported. Country-clustered standard errors in parentheses.

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